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ENTOMOLOGICAL NEWS

VOL. LIII OCTOBER, 1942 No 8

Notes on Mosquitoes in Nebraska (Diptera: Culicidae).[1]

By H. DOUGLAS TATE and WILLIS W. WIRTH[2]
Department of Entomology, College of Agriculture,
University of Nebraska.

This paper presents a list of the species of mosquitoes (Culicidae, subfamily Culicinae) represented in the collection of the Department of Entomology, University of Nebraska, and the localities in the state from which the specimens have been collected. The few isolated records previously published also are included. Although mosquitoes have long been a disturbing factor in some parts of the state, they have received relatively little attention. Indications are that in recent years the annoyance caused by them has increased, probably due largely to more extensive irrigation which has introduced favorable breeding conditions. In addition to the nuisance factor these pests frequently have been an economic influence of considerable importance in agricultural development. Of particular interest is their relationship to encephalomyelitis, a disease which in recent years has attained epidemic proportions in this area. These preliminary notes, involving 21 species, are presented at this time largely because of the scarcity of published records on these insects in Nebraska.

Dyar (1922) reports *Aedes dorsalis* Mg. and *Psorophora ciliata* Fab. from Nebraska. A recent publication by King and Bradley (1941) lists *Anopheles occidentalis* Dyar & Knab and *An. punctipennis* Say from this state. In a personal communi-

[1] Contribution from University of Nebraska Agricultural Experiment Station, Journal Series No. 303.

[2] The authors are indebted to Dr. Alan C. Stone, of the United States National Museum, for checking the identifications of each of the species marked with an asterisk.

cation received by the authors in September, 1941, Dr. Alan C. Stone stated that he had identified four species of mosquitoes from Nebraska, namely *Aedes trivittatus* (Say), *Aedes vexans* (Mg.), *Anopheles quadrimaculatus* Say, and *Culex tarsalis* Coq. These specimens were submitted to him from camps of the Civilian Conservation Corps and exact locality records were not obtained. The writers were unable to secure any other references to mosquitoes collected in this state. Therefore, nearly all of the 21 species reported below presumably are new records for this area.

AEDES DORSALIS Meigen.* Glen (Sioux Co.), Aug. 14, 1906 (P. R. Jones) (♀); Lincoln, April 27, 1915 (L. M. Gates) (♀), July 9, 17, 21, 1929 (R. H. Nelson) (3♀ ♀), June (H. S. Smith) (♀), Aug. (♂). Also reported from Nebraska by Dyar (1922).

Ae. EXCRUCIANS Walker. (See *Aedes stimulans*).

Ae. FITCHII Felt & Young. (See *Aedes stimulans*).

Ae. IDAHOENSIS (Theobald).* One specimen from Glen (Sioux Co.), Aug., 1906 (P. R. Jones) (♀).

Ae. NIGROMACULUS Ludlow.* Clay Center, July 24, 1921 (R. E. Weir) (♂); Dunbar, Sept. 24, 1941 (W. W. Wirth) (40♀ ♀, 1♂); Lincoln, June 16, 1908 (J. T. Zimmer) (♂), July 15, 1909 (F. A. Burnham (♀), July 9, 17, 21, 1929 (R. H. Nelson) (4♀ ♀), Sept. 12, 1934 (R. E. Hill) (♀), Sept. 17, 1935 (W. W. Darlington) (♀). This species formed up to 25 per cent of light-trap collections at Dunbar in September, 1941, about 10 days following heavy rains which flooded a nearby creek valley.

Ae. STIMULANS Walker. Females of *Aedes excrucians, fitchii,* and *stimulans,* the more common members of the *stimulans* group, are difficult to separate. Matheson (1928) separates them on the basis of the lower mesepimeral bristles, and on this basis these three species could be identified from the material in the collection. However, since there were neither male nor larval specimens, and in the absence of more inclusive characters the records of these species have been grouped together under *Aedes* (*stimulans* group).* Glen (Sioux Co.), Aug. 16, 1905

(♀), Aug., 1906 (P. R. Jones) (27♀♀), July 14, 1910 (L. Bruner) (♀); Pine Ridge (Dawes Co.), July 7, 1910 (L. Bruner) (♀).

Ae. TRISERIATUS Say.* This species, typically a tree-hole breeder, is represented in the collection by specimens as follows: Glen (Sioux Co.), Aug. 11, 1906 (P. R. Jones) (3♀♀); Monroe Canyon (Sioux Co.), Aug. 29, 1921 (R. E. Weir) (♀).

Ae. TRIVITTATUS Coquillett.* Dunbar, Sept. 24, 1941 (W. W. Wirth) (10♀♀, 1♂); Glen (Sioux Co.), Aug., 1906 (P. R. Jones) (2♀♀); Monroe Canyon (Sioux Co.), Aug. 5, 1908 (R. W. Dawson) (4♀♀); Lincoln, July 15, 1929 (R. H. Nelson) (♂). The females from Dunbar were collected in the early afternoon on a cloudy day near weeds beside a flood pool, at which time they were present in large numbers and biting fiercely.

Ae. VEXANS Meigen.* Child's Point May 20, 1905 (♀); Dunbar, Sept. 24, 1941 (W. W. Wirth) (25♀♀, 6♂♂); Dundy Co., June 26, 1905 (M. H. Swenk) (♂); Glen (Sioux Co.), Aug. 12, 1906 (P. R. Jones) (♀), July 14, 1910 (L. Bruner) (♀); Jamaica, July 12, 1929 (R. H. Nelson) (♂); Lincoln, May 20, 1904 (♀), Aug. 12, 1905 (♂), Sept. 28, 1905 (♀), July 20, 1910 (F. A. Burnham) (♀), July 9, 11, 12, 15, 17, 1929 (R. H. Nelson) (3♀♀, 8♂♂); Waverly, Feb. 10 (L. Bruner) (♀); West Point, June, 1910 (♀).

ANOPHELES OCCIDENTALIS Dyar & Knab.* Glen (Sioux Co.), Aug. 16, 1905 (10♀♀), Aug., 1906 (P. R. Jones) (45♀♀). Also reported by King and Bradley (1941) from Glen (Sioux Co.), Nebraska. Nebraska and Iowa apparently are the most southern limits of its known range.

A. PUNCTIPENNIS Say.* Dunbar, Sept. 24, 1941 (W. W. Wirth) (3♀♀) light trap; Lincoln, Nov. 5, 1903 (2♀♀) on window; Waverly, Feb. 10 (L. Bruner) (4♀♀, 3♂♂). Also reported by King and Bradley (1941) from Salt Creek, near Waverly, Nebraska, 1904. During September, 1941, first to third stage larvae were found breeding abundantly in shallow grassy lowland pools formed by the overflow from a creek at Dunbar, Nebraska, in association with *Culex tarsalis* larvae and

pupae. The November record is interesting in that it shows that Anophelines may be active, at least in houses, well into the winter as far north as Nebraska.

A. QUADRIMACULATUS Say.* One specimen in the Nebraska collection appears to be this species: Lincoln, Sept., 1940 (M. H. Swenk) (♀) in garage. Nebraska is the limit of the known range of *An. quadrimaculatus* north of Kansas and west of Iowa.

CULEX PIPIENS Linnaeus.* Dunbar, Sept. 21, 1941 (W. W. Wirth) larval collections, from a cistern, and 1 adult (♂), Sept. 24, 1941 (W. W. Wirth) (20 ♀ ♀ and 2 ♂ ♂ in collection, found resting in a cesspool); Lincoln, Sept. 28, 1915 (♂), Oct. (♂).

C. QUINQUEFASCIATUS Say.* One male, Lincoln, Nebr., October. (Additional data not available.)

C. RESTUANS Theobald.* Only one specimen; Waverly, Feb. 10 (L. Bruner) (♂).

C. TARSALIS Coquillett.* Dunbar, Sept. 21, 1941 (W. W. Wirth) (35 ♀ ♀, 3 ♂ ♂); Dundy Co., June 25, 26, 1905 (M. H. Swenk) (♀, ♂); Glen (Sioux Co.), Aug., 1906 (P. R. Jones) (♀); Lincoln, June 25, 27, 1910 (11 ♀ ♀, 4 ♂ ♂), Feb. 11, 1911 (L. Bruner) (6 ♀ ♀) in cellar, July 11, 1929 (R. H. Nelson) (♂), Sept. 12, 1934 (R. E. Hill) (♀), Aug. 13, 1936 (W. W. Darlington) (♀); Waverly, Feb. 10 (L. Bruner (12 ♀ ♀, 4 ♂ ♂). *Culex tarsalis* larvae were found developing very abundantly at Dunbar in September, 1941, in ditches and grassy lowlands flooded by a swollen creek. At the same time light-trap collections in this locality yielded up to 50 per cent of this species.

PSOROPHORA CILIATA Fabricius.* Dunbar, Sept. 24, 1941 (W. W. Wirth) (♀); Lincoln, June 18, 1908 (C. N. Gable) (♀), June 15, 1924 (♀, ♂). Also reported by Dyar (1922) from Lincoln.

P. COLUMBIAE Dyar and Knab. One specimen taken in a light trap at Dunbar, Sept. 24, 1941 (W. W. Wirth) (♀).

P. SIGNIPENNIS Coquillett.* Dunbar, Sept. 20, 21, 24, 1941 (W. W. Wirth) (85 ♀ ♀, 6 ♂ ♂); Dundy Co., June 26, 1905

(M. H. Swenk); Lincoln, July 17, 1929 (R. H. Nelson) (♀, ♂).

THEOBALDIA INCIDENS Thomson.* War Bonnet Canyon (Sioux Co.), (♀). Previous records for this species extended as far east as Montana in the North and New Mexico in the South. This apparently is the first time it has been found east of the Rocky Mountains.

T. INORNATA Williston.* Dunbar, Sept. 24, 1941 (W. W. Wirth) (11 ♀ ♀); Lincoln, March 18, 1913 (L. Bruner) (♀), May 26, 1930 (R. Roberts) (2 ♀ ♀); Waverly, Feb. 10 (L. Bruner) (♀).

LITERATURE CITED.

DYAR, HARRISON G. 1922. The Mosquitoes of the United States. U. S. Natl. Mus. Proc., 62, art. 1, 119 pp.

KING, W. V., and BRADLEY, G. H. 1941. Distribution of the Nearctic Species of *Anopheles*. In "Malaria," Publication 15 of the American Association for the Advancement of Science, pp. 71-78. Washington.

MATHESON, ROBERT. 1929. A Handbook of the Mosquitoes of North America. 269 pp. Charles C. Thomas, Springfield, Ill., & Baltimore, Md.

Two New Species of Calophya and Notes on Others (Psyllidae: Homoptera).

By L. D. TUTHILL, Iowa State College, Ames, Iowa.

The genus *Calophya* is holarctic in distribution and so far as is known the members all have species of *Rhus* as their host plants, except *C. oweni* which inhabits *Phoradendron juniperinum*. Intensive collecting in areas of the western United States, the homopterous fauna of which has not been well known previously, has resulted in the capture of the two species here described as new.

CALOPHYA CALIFORNICA Schwarz.

1904 *Calophya californica* Schwarz, Proc. Ent. Soc. Wash. VI: 241, 242.

1914 *Calophya californica* Crawford, U. S. N. M. Bull. 85: 50.

The color variations which Schwarz and Crawford record are apparently a sexual difference. The study of specimens shows that the males are dark brown to black on the vertex and thoracic dorsum, the females, however, are much lighter in color, light brown to golden yellow. I have at hand specimens from Los Angeles County, San Jacinto Mountains, Alpine and "west of Jacumba," California and one male from Yarnell Heights, Arizona.

Calophya minuta n. sp.

Length to tip of folded wings 1.5-1.75 mm.

Color: Head, except genal processes and antennae, prothorax except legs, mesothorax except legs, shining black. Metathorax, abdomen and legs light green to yellowish. Antennae white, black-tipped. Genal processes greenish white. Wings hyaline, forewings slightly yellowish.

Structure: Vertex very smooth, evenly rounded downward anteriorly, not bulging. Genal processes of medium length, longer than basal width, subacute, not divergent, extending forward parallel to plane of dorsum of vertex. Antennae thick, short, slightly shorter than width of head. Thorax weakly arched. Legs small. Hind tibia with very small apical spines, one outer, two inner. Forewings rounded apically, slightly over twice as long as wide; Rs long, nearly straight; cubital cell much larger than medial; pterostigma broad, moderately long; small radular areas in both marginal cells and between. Membrane of hind wings set with minute points.

Genitalia: Male proctiger evenly swollen on caudal margin. Forceps shorter than proctiger; in lateral view moderately thick, strongly curved cephalad to subacute apex; in caudal view broad, mesally notched before apex, apical portion a sharp retrorse hook, notch black margined and irregularly serrate. Female genital segment three-fourths as long as rest of abdomen, valves subequal in length; dorsal valve straight, black tipped, flattened and blunt in dorsal view; ventral valve broadly rounded apically.

Described from 19 males and 10 females, Tumicacari Mountain, Arizona, July 22, 1938, R. H. Beamer, 3 females, Santa Rita Mountains, Arizona, July 19, 1938, R. H. Beamer and a series of 11 males and 6 females, Atascosa Mountain, Arizona,

October 24, 1937, P. W. Oman.

Holotype male, Tumicacari Mountain, Arizona, July 22, 1938, R. H. Beamer, *allotype* female, same data, and paratypes in Snow Collection, University of Kansas. Paratypes in U. S. National Museum and author's collection.

This species resembles *C. californica* in general appearance but may readily be distinguished from the latter by its much smaller size, the much shorter and more rounded vertex and the short, forward projecting genal processes. The genitalia are also distinctive as described.

CALOPHYA DUBIA Crawford. Fig. 1. A.

1914 *Calophya dubia* Crawford, U. S. N. M. Bull. 85: 49, 51.

This species, which was described from a single pair of specimens, has been taken in large numbers at several localities in southern Colorado. It is the most numerous species on *Rhus trilobata* at high altitudes in midsummer. The males fit Crawford's description very well. The females range in color from clear yellow to light brown.

In addition to numerous Colorado specimens several males and females are at hand from Trident, Montana, collected June 4, 1940, by D. J. Pletsch.

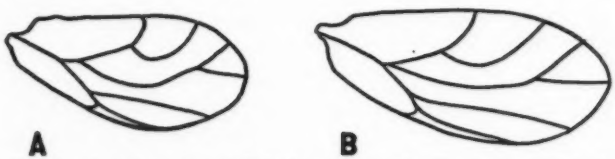

Fig. 1. A. Forewing of *Calophya dubia.* B. Forewing of *Calophya aurea.*

Calophya aurea n. sp. Fig. 1. B.

Length to tip of folded wings 2-2.25 mm.

Color: Uniformly golden yellow. Tips of antennae dark. Wings yellowish, darker along veins.

Structure: Head small. Vertex rather flat dorsally, slightly bulging each side of median line anteriorly. Frons prominent from base of genal processes to ocellus. Genal processes short, stout, sharp, strongly divergent, extending forward, about as long as basal width. Antennae short, thick, a little shorter than width of head. Thorax strongly arched. Pronotum long,

vertical. Hind tibia with one outer and two inner apical spines. Membrane of forewings somewhat thickened, three small radular areas on margin; marginal cells elongate for genus, medial cell proportionately larger; pterostigma large. Membrane of hind wings thickly set with minute points.

Genitalia: Male proctiger straight, nearly parallel-margined slightly swollen on caudal margin. Forceps much shorter than proctiger, in lateral view broad, straight, parallel margined, apices obliquely, roundly truncate; in caudal view broad, slightly arched; apices black-margined and serrate mesally, a more prominent tooth at cephalic end. Female genital segment as long as rest of abdomen, dorsal valve slender apically, blunt, dorsal margin concave; ventral valve nearly equal in length, flattened and broad apically.

Described from 7 males and 21 females from Durango, Pagosa Springs, Ridgeway, Creede and El Paso Co., COLORADO and one pair from Trident, MONTANA.

Holotype male, Durango, Colorado, July 4, 1937, L. D. Tuthill; *allotype* female, Pagosa Springs, Colorado, July 16, 1938, L. D. Tuthill. Holotype, allotype and paratypes in author's collection, paratypes in Snow Collection, University of Kansas, U. S. National Museum, collection of Montana State College and collection of Academy of Natural Sciences, Philadelphia.

Most of the specimens were taken on *Rhus trilobata* in early July.

Although occurring on the same host plant and in company with *C. dubia* this form is readily distinguished from the latter. The difference in color, in the shape and venation of the forewing (as shown in the accompanying figures), in shape of head and genal processes and the distinctive genitalia all combine to make it easily recognizable.

OBITUARY.

CHARLES DAVIES SHERBORN, known to entomologists and zoologists generally for his compilation of *Index Animalium*, a complete list of all generic and trivial names from 1758 to 1850, died June 22, 1942, within a week of his 81st birthday. An obituary notice is in Nature (London) for August 1, 1942.

A New Race of Atlides halesus Cramer from California (Lepidoptera: Lycaenidae)

By HARRY K. CLENCH Cambridge, Massachusetts

Upon comparing a series of *Atlides halesus* Cramer [1] from California with specimens of the same species from Florida, the fact was revealed that two races were involved. For reasons stated below, the Florida form has been regarded as typical.

An aberration of *halesus* from California was described by Gunder under the name of *corcorani* [2]. Unfortunately, this name must now be used to denote the race occurring in the West. In the strict sense, however, *corcorani* applies only to those examples in which the basal red markings of the underside of the wings, and the underside of the abdomen, are cream or white, thus leaving the normal form of the race (with these markings red) undescribed.

ATLIDES HALESUS CORCORANI, form *estesi*, new normal form.

Upperside: ♂. Fore wing as in typical *halesus*: bright metallic greenish blue, with rather large, well-defined scent pad at the cell-end, and a moderately broad blackish-brown border on the outer margin.

Hind wing also of the same metallic color, with a large costal border of blackish brown, diminishing sharply on the outer margin. At the end of vein Cu_2 is a tail, and at Cu_1 a slight irregularity in the margin. A faint indication of a steel-blue bar between Cu_1 and Cu_2 on the margin is occasionally present. A larger bar, of similar color, is always present between Cu_2 and 2A.

♀. Differs from the male in the duller, more restricted blue areas, presence of a well-developed tail at Cu_1, and, of course, the absence of a scent-pad at the cell-end of the fore wing.

Underside: ♂. Ground color dark gray, occasionally brownish. Fore wing with a blue dash, perpendicular to the body line, just below the cell in the base. Costa, near base, marked with a black-encircled red spot. Outer margin of wing narrowly blackish.

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[1] *Papilio halesus* Cramer, 1779, Papillons Exotiques, etc. 2, p. 3, pl. 98, figs. B, C.

[2] *Atlides halesus*, trans. frm. *corcorani* Gunder, 1934, Canad. Ent. 66, p. 131 (Various new Butterflies).

Hind wing: ground color as in fore wing. Outer margin narrowly jet black, also as in fore wing. Three rows of metallic dashes near the anal angle. The inner row, tending more toward greenish than the other two, contains three internervural dashes. The middle row is composed of either two or three, while the outer row, like the inner has three. All of the dashes in the three rows are surrounded by dull jet black. The greater parts of veins Cu_1, Cu_2 and 2A are streaked with jet black. Two red spots, one costal, the other inner marginal, are found at the base. The inner margin is bordered narrowly with black, just inward to which is a narrow strip of blue scaling.

♀. Similar to the male, but lacking the blue dash on the fore wing.

Length of fore wing (broadest measurement from base to outer margin, perpendicular to the body line and parallel to the inner margin). ♂ largest 17.5 mm., average 16.1, smallest 14. ♀ largest 18.5 mm., average 17.2, smallest 15.

Holotype, ♂, Riverside, CALIFORNIA, October 6, 1940. (F. Estes). *Allotype*, ♀, same locality and collector, September 29, 1940.

Paratypes, all Riverside, California, as follows: one ♀, Sept. 29, 1940; 5 ♂, 1 ♀, Oct. 6, 1940; 13 ♂, Oct. 11, 1941; 1 ♀, Oct. 14, 1939; 2 ♂, 1 ♀, Oct. 15, 1939; 14 ♂, 6 ♀, Oct. 18, 1941; 1 ♂, Oct. 21, 1939; 1 ♂, Nov. 5, 1938 (all collected by F. Estes); 1 ♂, Oct. 9, 1937 (in coll. D. B. Stallings); 2 ♂, no date or collector, ex Fall Coll. in the Museum of Comparative Zoölogy.

Holotype, allotype and the last two paratypes, No. 25703 in the M. C. Z. collection; one pair in the Canadian National Collection; one male in the collection of Mr. D. B. Stallings, of Caldwell, Kansas. Some will be returned to the collector of the majority, Mr. Fred Estes, of Riverside, California, for whom it gives the author pleasure to name this form. The remainder of the paratypes are at present in the collection of the writer.

Remarks. Although Cramer, in his description of *halesus*, cited no locality for the species, it is fairly reasonable to assume that his specimen or specimens had origin in the South-East, most likely in Virginia, or some neighboring state. Several facts seem to bear out this hypothesis, among which are the

following: several of Cramer's species came from this region, one of the early colonies of America; Cramer's figure, while not the best, is sufficiently good to show two tails on the male, a character not found in the western race; Fabricius[3] who redescribed *halesus* (under that name), added the locality "America boreali."

The western race differs from the eastern (typical) in several characters. The former lacks a tail at Cu_1, an irregularity in the outer margin at that point being the only indication of it. It also lacks the red between the outer two rows of bars at the anal angle of the hind wing below, and a similar red basal to the Cu_2-2A steel-blue bar of the hind wing above. The ground color below is grayer than in eastern *halesus*.

Arizona specimens are of the western race, *estesi*, and New Mexico examples will probably be the same. In Texas both subspecies seem to occur, as well as some with mixed characters. Central American specimens will belong either to *estesi* or to another subspecies.

Some Notes on Nearctic Stagbeetles, with Description of a New Species of Platycerus from Pacific Northwest. (Coleoptera: Lucanidae)

By Bernard Benesh, North Chicago, Illinois.

In these notes it is proposed to record field observations on the bionomics of *Pseudolucanus capreolus* (L.), add to the range of *Dorcus brevis* (Say) and describe a new species of *Platycerus* from Oregon. The last was carefully compared by Dr. Chapin with material conserved at the U. S. National Museum; in returning the specimens he states "the best I can do is to say that the two males which are entirely black with a slight tinge of green do not look like anything in the Casey collection or in our own."[1] I gratefully acknowledge the continued co-operation of Dr. Chapin and thank him heartily for his systematic aid.

[3] 1781, Species Insectorum, etc. 2, pp. 116-117. (See also Butler, A. G., 1869, Catalogue of the Diurnal Lepidoptera described by Fabricius in the collection of the British Museum, p. 197.)

[1] Letter of 18 December 1941.

PSEUDOLUCANUS CAPREOLUS (L.) To recorded host plants [2] of this species we can add tulip poplar (*Liriodendron tulipifera* L.), as five adult males and nine larvæ (apparently in the last instar) were taken in a cavity of this tree, some years ago, at Deer Lodge, Tennessee. The males were observed emerging about four o'clock one torrid afternoon in June, 1935; by digging among the rotting debris, the larvæ were unearthed. It is obvious that the insect is not particularly addicted to any given host and may attack others than those thus far noted.

Platycerus viriditinctus n. sp.

♂ Robust, convex, ebony black, nitid, dorsum with obscure greenish tinge; a member of the *aggassizi* group, its nearest relative being *P. opacus* Fall [3], with which species it is compared throughout.

Head transverse, twice as broad as long, anterad nearly straight, antero-lateral angles rounded and feebly emarginate, canthus short and parallel, eyes fairly large, convex, base gently rounded; anteocular bosses prominent; cribrate-punctate (similar to *opacus*, but shallower and more clearly defined), punctuation becoming larger towards the base. Antennæ short, fairly stout, with scape and funicle piceous, nitid; scape one-third the length of antenna, slightly bent; funicle six-segmented, sparsely setose, first segment pear-shaped, twice as long as the second; second globular and distinctly longer than the succeeding segment, third, fourth and fifth of equal length, dilated towards front, sixth as long as the fifth, twice as broad as long, produced anterad into a point; clava of three segments, longer than the funicle, spongiose, rufous, sub-opaque, first two segments of equal length, produced anterad into a lobe, ultimate segment irregular in outline and twice as long as the preceding segment. Mandibles sickle-shaped, simple.

Pronotum nearly twice as broad as long, frontad hollowed, antero-lateral angles subacute (*opacus* more blunt), sides gently rounded to basal third (*opacus* more broadly arcuate), thence sinuous to the acuminate basal angles, base concave (*opacus* straight); punctuation cribriform (in *opacus* larger and closer), disc with a frontal median impression, lateral margins esplan-

[2] Blatchley, W. S.: Coleop. of Indiana, pp. 903-909, 1910. Cosens. A.: 52 Annual Rep., Ent. Soc. Ontario, pp. 12-13, 1922. Saunders, W.: Can Ent. 13: 118, 1881.

[3] Fall, Henry C.: Ent. News, 17: 393, 1906.

ate and gently reflexed. Scutellum broader than long, apex rounded, base strongly punctured. Elytra nearly three times the length of pronotum, 5 mm wide and 6.5 mm long, basad ante-humeral area strongly depressed, humeri rounded, diverging to posterior third, thence gently rounded to apex, surface uneven, linearly punctulate (in *opacus* confused). Legs slender, black, nitid; tibiæ with rows of golden setae; anterior tibiæ distad with broad furcation and six unequal serrations; intermediate tibiæ serrate the full length with eight serrations (*opacus* with two to three short, centrally situated spines), posterior tibiæ with five feeble serrations (in *opacus* simple); tarsi slender and as long as the tibiæ, piceous, with short, ventral, golden setæ; claws large, simple. Beneath, black, nitid, sparsely punctured throughout, with punctuation on abdominal segments finer and denser; mouth parts piceous, glabrous.

Dimensions: length (with mandib.) 10.5 mm; width (broadest part of elytra) 5 mm. Female unknown.

Holotypes ♂, Stayton, OREGON, V-3-1941, in the writer's collection, accession number 5362. *Paratopotype*: ♂, same data as holotype, in the cabinet of Mr. K. M. Fender, McMinnville, Oregon.

Described from 2 ♂ ♂, captured by Kenneth M. and Dorothy L. Fender, to whom thanks are due for this valuable addition to the meager series of western *Platycerus* in the writer's reference collection.

DORCUS BREVIS (Say). Subsequent to the publication of "Some Notes on Boreal American Dorcinæ"[4] I have been presented by Mr. A. B. Wolcott, Field Museum of Natural History, Chicago, with an excerpt from the Proceedings, Journal New York Entomological Society, 30: 201, 1922, in which is recorded data on some beetles taken and exhibited by Mr. J. W. Angell. Among these is noted *Dorcus nanus* Csy, found at Lakehurst, New Jersey, August 15, 1914, by F. M. Shott. Checking my records I find that the insect in question is *D. brevis* (Say) and is so recorded in my "Notes", vide p. 13. Additional localities discovered since the publication of the "Notes" are: Maryland: Md, in Carnegie Museum collection; Kansas: Ks, Univ. of Minnesota collection; Michigan: Stevensville, 7-22-34, Benesh collection, acc. No. 4538, ex-coll. Dybas and Seevers.

[4] Benesh, B.: Trans. Amer. Ent. Soc. 63: 1-16, 1937.

New Cerambycidae with Notes (Coleoptera)

By JOSEF N. KNULL, The Ohio State University,
Columbus, Ohio.

Anoplocurius altus n. sp.

♂.—Size and Form of *A. canotiae* Fishr., light brown in color, shining, long flying hairs on both surfaces, legs and antennae.

Head convex, transversely depressed above clypeus; surface crenulate; eyes large, coarsely granulate; antennae extending over four joints beyond apex of elytra, eleven-jointed, scape stout, second joint longer than wide, third joint longer than first two together, fourth slightly shorter than third, fifth longer than fourth, joints six and seven gradually increasing in length, seven, eight and nine equal, ten shorter than nine, eleven equal to nine, scape and second joint with coarse punctures, third joint not spinose.

Pronotum longer than broad, widest back of middle, base and apex of about equal width; disk convex; surface crenulate. Scutellum triangular, punctures small.

Elytra wider than pronotum; sides subparallel, apices truncate; surface coarsely punctured, punctures separated by more than their own diameters, short sparse pubescence intermixed with long flying hairs.

Abdomen coarsely punctured; first ventral tumid at middle, fringed with long pubescence. Legs slender, femora clavate.

Length 7.8 mm.; width 1.9 mm.

♀.—Antennae extending over two joints beyond apex of elytra, third joint not spinose. First segment of abdomen simple.

Holotype male and *allotype* collected in Davis Mountains, TEXAS, July 2, 1940. Paratypes from the same locality ranging in dates from June 6 to July 6, D. J. and J. N. Knull collectors. All specimens from oak. Holotype, allotype and paratypes in writer's collection. Paratypes in The Ohio State University collection, including one from the Wenzel collection from Texas.

The following key will serve to separate the three known species in the genus.

A. Antennae twelve-jointed.....*canotiae* Fishr.

AA. Antennae eleven-jointed

B. Third joint of antennae spinose at tip in both sexes .....*incompletus* Lins.

BB. Third joint of antennae not spinose. *altus* n. sp.

Perigracilia delicata n. sp.

Form of *P. tenuis* Lins., slender, cylindrical, opaque, fuscous, pubescence minute, inconspicuous.

Head across eyes wider than elytra; surface scabrous; eyes coarsely granulate, deeply emarginate, upper lobe small; terminal palpal joints similar, cylindrical; antennae twice as long as insect, tapering from base to apex, scape stout, elongate; second joint slightly longer than wide; third joint shorter than first; fourth joint shorter than first; joints five to eight inclusive increasing in length; joints nine, ten and eleven equal in length, each shorter than eighth; twelfth joint longer than eleventh; first four joints rugose.

Pronotum narrower than elytra, nearly twice as long as wide, base and apex of equal width, widest in front of base; sides constricted back of apex, gradually expanding to basal fourth, then abruptly constricted at base; disk convex, a lateral depression each side near apex; surface rugulose, granulate at base. Scutellum triangular, granulate.

Elytra three times as long as broad; sides parallel at base, constricted in middle, expanded on apical fourth, apices acutely rounded, suture at tip dehiscent; disk flattened, surface granulate, covered with large shallow punctures, separated by more than their own diameters.

Prosternum long before front coxae; intercoxal process very narrow, pointed behind; coxae large, nearly contiguous; middle coxae about same. Abdomen shining, punctures fine. Femora clavate. Hind tarsus over half the length of tibia, first joint longer than three following joints.

Length: 6 mm.; width 1.2 mm.

Described from eight specimens, probably males, collected at light in the Santa Catalina Mountains, Pima County, ARIZONA, August 5, 1930, by Leonora K. Gloyd. *Holotype* and paratypes in the Museum of Zoology, University of Michigan. Paratypes in writer's collection. I am indebted to Miss A. L. Olson for the privilege of describing this species.

Dr. E. G. Linsley kindly compared a specimen with the type of *P. tenuis* Lins.[1] and stated that the new species differs by being darker in color, head more strongly scabrous, eyes more convex and coarsely granulate, third and fourth antennal segments more robust. The relative proportions of the antennal

[1] E. G. Linsley, Proc. Cal. Acad. Sci., 24, No. 2, p. 49, 1942.

joints of the two species are different.

ANTHOPHYLAX VIRIDIS Lec. This species which was treated as a synonym of *A. malachiticus* (Hald.) by Hopping [2] should be restored to specific standing. A large series of both species was collected on the blossoms of mountain maple (*Acer spicatum* Lamb.) in Sullivan County, Pennsylvania. Many of the adults were in copulation when taken.

In the large series of the former, the femora are not yellow, pronotum usually darker than elytra and color of elytra ranging from dark brown to violet, or green. The last abdominal segment of both sexes is emarginate; the middle area is concave in the female and raised in the male.

In *A. malachiticus* (Hald.) the femora are yellow, pronotum same color as elytra and color ranging from bright green to blue. The last abdominal segment of both sexes is truncate and is not modified. These characters appear to agree with specimens from other localities too.

Taranomis linsleyi n. sp.

♂.—Resembling *Perarthrus vittatus* Lec. in appearance, robust, head, thorax, scutellum, abdomen and tarsi black, three longitudinal stripes on each elytron and antennae dark brown, legs light brown, elytra yellow.

Head convex; surface coarsely punctured, shining, pubescence long; eyes finely granulate; antennae twelve-jointed, extending over five joints beyond apex of elytra, scape stout, second joint as long as broad, third, fourth and fifth equal, each longer than first two together, joints six to eleven inclusive about same length, twelfth longer than eleventh, pubescence very short.

Pronotum narrower than elytra, widest in middle, wider than long, narrower at apex than at base; sides broadly rounded from base to apex; disk flattened; surface shining, punctures small, sparse, dense recumbent white pubescence along sides, with intermixed long flying hairs, central portion glabrous. Scutellum declivous in front, triangular, with long pubescence.

Elytra about twice as long as wide, widest across humeri; sides subparallel, apices sinuate forming a tooth along suture and on outer edge; disk convex, two longitudinal smooth costae on each elytron, also a humeral depression; surface

[2] Ralph Hopping, Bul. 85, pt. II. Can. Dept. Mines and Resources, p. 15, 1937.

coarsely densely punctured, pubescence short, longer flying hairs at base.

Ventral surface clothed with dense white recumbent pubescence with intermixed longer flying hairs.

Length: 11.8 mm.; width 3.7 mm.

♀.—Differs from the male by the antennae extending only a part of a joint beyond apex of elytra, eleven-jointed.

Holotype male and *allotype* female collected at Phoenix, ARIZONA, May 2, 1925, by R. H. Crandall, in collection of the writer. Other paratypes are California: 4 miles E. Edom, Riverside County, April 17, 1937, E. G. Linsley, and Whitewater, April 17, 1937, A. E. Michelbacher, in collection of Dr. E. G. Linsley, Arizona: Florence, April 21, 1935, F. H. Parker and Ajo Mountain, March 19, April 20, E. D. Ball, in writer's collection.

I take pleasure in naming this species for Dr. Linsley, who has loaned material for study.

It can be separated from *T. bivittata* (Dup.) by the pronotum being more rounded, less coarsely punctured and lack of strong elytral costa, as well as lack of protuberant mesosternum. From *T. pallida* (Schffr.) it differs in the above pronotal characters. Schaeffer [3] states that the antennae of both sexes are twelve-jointed and color of pronotum red.

LEPTOSTYLUS ARCUATUS Lec. After examining the type of this species I am convinced that *L. floridanus* Champ. & Knull is the same.

ONCIDERES CORNUTICEPS Schffr. Specimens of this form identified by Schaeffer were examined and found to be what I had recorded [4] as *Lochmaeocles tessellatus* (Thoms.) from Acacia at Brownsville, Texas.

OBITUARY

Mr. PHILIP LAURENT, oldest member of the American Entomological Society in point of election thereto (January 28, 1886), died at his home, Mt. Airy, Philadelphia, on June 17, 1942. We hope to present a notice of him in a later number of the NEWS.

[3] C.F.A. Schaffer, Bul. Brook Inst. I, p. 132, 1905.

[4] Ent. News 48, p. 42, 1937.

Current Entomological Literature

COMPILED BY THE EDITORIAL STAFF.

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the current or preceding year unless otherwise noted. All continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Note. References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the list of Periodicals and Serials published in our January and June issues. This list may be secured from the publisher of Entomological News for 10c. The number of, or annual volume, and in some cases the part, heft, &c., the latter within ( ) follows; then the pagination follows the colon :

Papers published in the Entomological News are not listed.

NEW ADDITION TO LIST OF PUBLICATIONS.

127. Proceedings, 8th American Scientific Congress. Vol. III Biological Sciences. Washington, 1942. Date of publication August 3, 1942 (private communication from the Secretary of the Congress.)

GENERAL—Allen, K. R.—Comparison of bottom faunas as sources of available fish food. [Trans. Amer. Fish. Soc.] 1941: 275-283. **Anon.**—Good insects [Penna. Game News] 13 (5): 12, 20 ill. **Bondar, G.**—A entomologia das flores de palmeiras [127] 3: 297-302. **Bradley, J. C.**—The origin and significance of metamorphosis and wings among insects [127] 3: 303-309, ill. **Chagnon, G. & Fournier, O.**—Les Ordres d'Insectes. [98] 69 (4-5): 128-142, ill. (k). **Champlain, A. B.**—Log of Rattlesnake Shack [Penna. Game News] 13 (5): 8-10, ill. **Chardon, C. E.**—On the origin of the flora and fauna in the upper zones of the equatorial Andes [127] 3: 35-36. **Emerson, A. E.**—Basic comparisons of human and insect societies. [Biol. Symposia Lancaster, Pa.] 8: 163-176. **Ferris, G. F.**—The American commission on scientific nomenclature in entomology. [68] 95 (2476): 598. **Froggatt, Walter Wilson.**—Obituary by A. B. W. [Proc. Linnean Soc. N. S. Wales] 67 (1-2): 77-81. **Fulcher, G. S.**—A grasshopper problem in mechanics [68] 95 (2475): 577. **Henriksen, K. L.**—Obituary by N. A. Kemner. [Opuscula Entomologica] 6 (2-4): 80. **Howell, H. H.**—Bottom organisms in fertilized and unfertilized fish ponds in Alabama. [Trans. Amer. Fish. Soc.] 1941: 165-179. **Knowlton,**

G. F. & Harmston, F. C.—Insect food of the rock wren. [120.] 3 (1): 22. **Leonard, J. W.**—Some observations on the winter feeding habits of brook trout fingerlings in relation to natural food organisms present. [Trans. Amer. Fish. Soc.] 1941: 219-227. **Dr. H. P. Löding,** 1869-1942, Obituary by G. P. Engelhardt. [19] 37 (2): 50-51, portrait. **Martin, J. P.**—Stem galls of sugar-cane induced with insect extracts. [68] 96 (2480): 39. **Macleay, Alexander,** and **Macleay, William**—Biographies by A. B. Walkom [Proc. Linnean Soc. N. S. Wales] 67 (1-2): v-vii, vii-xv. **Munro, J. A.**—Studies of waterfowl in British Columbia, buffle-head. [Canad. Jour. Res.] 20 D (6): 133-160. [Insect food of this bird, pp. 153-158.] **Murrill, W. A.**—Species making. [Amer. Botanist] 48 (3): 79-82. **Needham, P. R. & Sumner, F. K.**—Fish management problems of high western lakes with returns from marked trout planted in Upper Angora Lake, California. [Trans. Amer. Fish. Soc.] 1941: 249-269. **Park, T.**—Integration in infra-social insect populations. [Biol. Symposia, Lancaster, Pa.] 8: 121-138, ill. **Petch, T.**—Notes on entomogenous fungi. [Brit. Mycol. Soc. Trans.] 25 (3): 250-265. **Raney, E. C. & Lachner, E. A.**—Autumn food of recently planted young brown trout in small streams of central New York. [Trans. Amer. Fish. Soc.] 1941: 106-111. **Sherborn, Charles Davies**—Obituary by J. R. Norman. [31] 150 (3796): 146-147. **Stage, H. H. & Hyslop, J. A.**—Origin and spread of important insect pests of animals. [Yearbook, U. S. Dept. Agric. 1942]: 203-208. **Vladykov, V. D. & Gauthier, C.**—Nourriture des jeunes achigans (Micropterus dolomieu) dans la region de Montreal [Insect food of this fish] [Annales de l'ACFAS] 8: 110.

ANATOMY, PHYSIOLOGY, ETC.—Crescitelli, F. and T. Jahn—Oscillatory electrical activity from insect compound eye. [Jour. Cell. and Comp. Physiol.] 19: 47-66. **Dethier, V. G.**—The dioptric apparatus of lateral ocelli. I. The corneal lens. [Jour. Cell. and Comp Physiol.] 19: 301-314. **Fraenkel, G. & Blewett, M.** — Biotin, B_1, riboflavin, nicotinic acid, B_6 and panthotheic acid as growth factors for insects [31] 150 (3797): 177-178. **Jack, R. W.**—The life economy of a tsetse fly. [Proc. Rhodesia Sci. Assoc.] 39: 43-60. **Jackson, H. W.**—Morphology and histogenesis of the blood of the mealworm (Tenebrio molitor L.); Origin of the midgut in T. Molitor. [Va. Jour. Sci.] 1 (7): 221-2; 222. 1940. **Jacobson, H.**—Ueber die Sprungmuskulatur des Uferschwalbenflohes, Ceratophyllus styx

Roths [46] 37 (1): 144-154, ill. 1940. **Koch, A.**—Ueber die vermeintliche Bakteriensymbiose von Tribolium (Tenebrionidae), ein Beitrag zur Oenocytenfrage. [46] 37 (1): 38-62, ill. 1940. **Lotmar, R.**—Das Mitteldarmepithel von Tineola biselliella wahrend der Metamorphose. [41] 18 (9-10): 445-455, ill. **Ludwig, D. and Anderson, J. M.**—Effects of different humidities, at various temperatures, on the early development of four Saturniid moths, and on the weights and water contents of their larvae. [84] 23 (3): 259-274, ill. **Lüdtke, H.**—Die embryonale und postembryonale Entwicklung des Auges bei Notonecta glauca (Heteroptera), zugleich ein Beitrag zum Wachstums- und Häutungs- problem. [46] 37 (1): 1-37, ill. 1940. **Metcalf, R. L.** and **R. L. Patton**—A study of riboflavin metabolism in the American Roach by fluorescence microscopy. [Journal Cell. and Comp. Physiol.] 19: 373-374. **Pettit, L. C.**—A transitory membrane in the formation of midgut in the cockroach. Blatella germanica. [Va. Jour. Sci.] 2 (6): 187. 1941. **Pilkington, R. W.**—Facet mutants of Drosophila. [93] 111 (A) (3-4): 199-222, ill. **Ris, H.**—A cytological and experimental analysis of the meiotic behavior of the univalent X-chromosome in the bearberry aphid Tamalia (Phyllaphis) coweni (Ckll.) [42] 90: 267-322. **Seitz, W.**—Zur Frage des Extremitätencharakters der Tracheenkiemen von Sialis flavilatera L. im Rahmen allgemeiner biologischer Untersuchungen [46] 37 (2): 214-275, ill. 1940. **Smallman, B. N.**—Quantitative characters of the growth and development of a paurometabolous insect, Dixippus (Carausius) morosus Br. et Redt. I. The loss of water in relation to ecdysis. [Proc. Roy. Soc. Edinburgh B] 61 (2): 167-185, ill. **Tannenbaum, L. W.**—Note on the mesothoracic spiracle of the mormon cricket. [19] 37 (2): 72. **Tauber, O. E. & Clare, S.**—Circulation in the wings of the cockroach, Blatella germanica, IV. Circulation in unsclerotized wings under normal and experimental conditions. [Trans. Amer. Micros. Soc.] 61 (3): 290-296, ill. **Tulloch, G. S., & Goldman, M.**—The Malphighian tubules of Aedes aegypti L. [19] 37 (2): 52-55, ill. **Wigglesworth, V. B.**—The storage of protein, fat, glycogen and uric acid in the fat-body and other tissues of mosquito larvae. [Jour. Expt. Biol.] 19: 56-78. **Williams, C. M.**—The effects of temperature gradients on the pupal-adult transformation of silkworms. [Biol. Bull.] 82 (3): 347-355, ill.

ARACHNIDA AND MYRIOPODA—Brazil, V.—Considerações gerais sobre a biologia dos animais peçonhentos.

[127] 3: 311-322. **Browning, H. C.**—The relation of instar length to the external and internal environment in Tegenaria atrica [93] 111 (A) (3-4): 303-317. **Causey, N. B.**—New Lithobiid centipedes from North Carolina [Jour. E. Mitchell Sc. Soc.] 58 (1): 79-83, ill. **Chamberlin, R. V.**—New millipeds from Michoacan. [95] 55: 57-62, ill. **Eddy, G. W. & Joyce, C. R.**—Ticks collected on the Tama (Iowa) Indian Reservation with notes on other species. [Iowa State College Journal of Science] 16 (4): 539-543. **Ewing, H. E. & Nesbitt, H. H. S.**—Some notes on the taxonomy of grain mites (Acarina : Acaridae, formerly Tyroglyphidae) [95] 55: 121-124. **Gertsch, W. J. and Archer, A. F.**—Descriptions of new American Theridiidae [40] 1171: 1-16, ill. **Goodnight, C. J. and M. L.**—Phalangids from British Guiana. [40] 1167: 1-13, ill. (*);—Phalangids from Central America and the West Indies. [40] 1184: 1-23, ill. (*). **Mazzotti, L.**—Los Ornithodoros de Mexico y su relacion con la fiebre recurrente. [Revista Inst. Salubr. Enfermed. Trop., Mexico] 3 (1): 47-52. **Penn, G. H., Jr.**—The life history of Porocephalus crotali, a parasite of the Louisiana muskrat. [Journ. Parasitol.] 28 (4): 277-283, ill. **Pierce, W. D.**—Fauna and flora of the El Segundo sand dunes. 12. Utilization of the black widow parasite and further data on spiders and parasites. [38] 41 (1): 14-28. **Radford, C. D.**—The larval Trombiculinae (Acarina, Trombidiidae) with descriptions of twelve new species. [116] 34 (1): 55-81, i'l. (k). **Rey, A.**—Seconde ponte après alteration du cocon chez l'Araignêe labyrinthe (Agelena labyrinthica Clerck); Le tissage de la toile après suppression des pattes postêrieures chez Araneus quadratus (Clerck). [Comnte Rendu Soc. Phys. Hist. Nat. Geneve] 59 (1): 63-66, 66-68 **Schneider, H.**—Untersuchungen über die Acarapis—Milben der Honigbiene. Die Flügel- und Hinterleibsmilbe. [41] 18 (6): 318-327, ill. 1941. **Spurlock, G. M. & Emlen, J. T., Jr.**—Hypodectes chapini n. sp. (Acarina) from the red-shafted flicker. [Journ. Parasitol.] 28 (4): 341-344. **Truman, L. C.**—A list of spiders collected in western Pennsylvania. [Proc. Penna. Acad. Sci.] 16: 25-28. **Wallace, H. K.**—A study of the lenta group of the genus Lycosa, with descriptions of new species. [40] 1185: 1-21, ill.

THE SMALLER ORDERS OF INSECTS—Auguston, G. F.—The allotype of Amphipsylla neotomae I. Fox, 1940 (Siphonaptera : Dolichopsyllidae). [38] 41 (1): 39-41, ill. **Bonet, F.**—Sobre algunos Proturos de Mêxico. [Ciencia,

Mex. City] 3 (1): 14-17 (*); Notas synonymicas sobre el orden Colembolos. [Ciencia, Mexico] 3 (2): 56-59 (*). **Calvert, P. P.**—Increase in knowledge of the Odonate fauna of Mexico, Central America and the West Indies since 1908. [127] 3: 323-331. **Clay, T.**—Genera and species of Mallophaga occurring on gallinaceous hosts [93] 110 (B) (1-2): 1-120, ill. (*). **Emerson, A. E.**—The relations of a relict South African termite (Stolotermes). [40] 1187: 1-12, ill. **Jacobson, H.**—See Anatomy & Physiology. **Jellison, W. L.**—Host distribution of lice on native American rodents north of Mexico [Journ. Mamm.] 23 (3): 245-250. (Mallophaga & Anoplura). **Jordan, K.**—On Parapsyllus and some closely related genera of Siphonaptera [Eos] 18 (1): 7-29 (k*). **Roudabush, R. L.**—Parasites of the American Coot (Fulica americana) in central Iowa. [Iowa State College Journal of Science] 16 (4): 437-441. **Seitz, W.**—See Anatomy & Physiology. **Vladykov, V. D.**—Remarques sur la biologie du "scorpion", Corydalis cornuta, dans la rivière Châteauguay. [Annales de l'ACFAS] 8: 109. **von Hagen, V. W.**—Natural history of termites II. [Scientific Monthly] 55: 29-51. **Weber, N. A.**—A neuropterous myrmecophile, Nadiva valida. Erichs. [5] 49 (1-2): 1-3, ill.

ORTHOPTERA.—Coleman, E.—Notes on the great brown stick-insect. [Victorian Naturalist, Melbourne] 59 (3): 46-48, ill. **Cros, A.**—Blatta orientalis et ses parasites I. Evania punctata Brullé; II Eulophus sp. Etude biologique. [Eos] 18 (1): 45-66, ill. **Grayson, J. McD.**—Coloration studies on Melanoplus bivittatus Say. [Va. Jour. Sci.] 2 (6): 184-5 (abstr.). 1941. **Haydak, M. H.**—Rearing grasshoppers under laboratory conditions. [68] 95 (2478): 657-8. **Henderson, W. W.**—The genus Hesperotettix in Utah. [120] 3 (1): 9-21. **Liebermann, J.**—Nahuella rubriventris, nuevo genero y nueva especie Argentina del grupo Jivari (Acrid. Cyrtacanth.) [Anales Mus. Argent. Cienc. Nat., Buenos Aires] 40: 303-316, ill. (k.).

HEMIPTERA.—Drake, C. J. & Poor, M. E.—Four new Tingitidae from Argentina. [Anales Mus. Argent. Cien. Nat., Buenos Aires] 40: 299-302. **Froeschner, R. C.**—Contributons to a synopsis of the Hemiptera of Missouri, pt. II, Coreidae, Aradidae, Neididae. [119] 27 (3): 591-609, ill. (k.) **Kay, M. W.**—A study of Herpetomonas leptocoridis (McCulloch) of the alimentary canal of the box elder bug, Leptocoris trivittatus (Say). [Jour. Parasitol.] 61 (2): 120-

130, ill. **Knowlton, G. F.**—Aphids from Mount Timpanogos, Utah [120] 3 (1): 5-8, ill. (k*). **Kullenberg, B.**—Über Farbenveränderungen unter den Wanzen. [83] 33B (7): 1-5. **Larsen, O.**—Zur Biologie von Rhacognathus punctatus L.; Die Autotomie der Capsiden. [Kungl. Fysiografiska Sällskapets i Lund Förhandlingar] 11: 175-188, ill., 241-253, ill. **Lüdtke, H.**—See Anatomy and Physiology. **Pelaez, D.**—Un nuevo Spiniger mexicano del subgenero Opisthacidius Berg (Reduv.) [Ciencia, Mexico] 3 (2): 60-63, ill. **Popham, E. J.**—The variation in the colour of certain species of Arctocorisa (Corixidae) and its significance. [93] 111 (A) (3-4): 135-172, ill. **Torre-Bueno, J. R. de la.**—Notes on Arhaphe cicindeloides Walker and Japetus mimeticus Barber. [19] 37 (2): 68-69.

Wene, G., & Dominick, C. B.—A checklist of the Cicadellidae at Chatham, Virginia, with 13 new records for the State. [Va. Jour. Sci.] 2 (5): 122-123, 1941.

LEPIDOPTERA—Beirne, B. P.—The morphology of the female genitalia of the Lepidoptera [21] 54 (7-8): 81-83, ill. **Blanchard, E. E.**—See Diptera. **Bottimer, L. J.**—Brief notes on two recently described species of Mompha. [38] 41 (1): 48. **Brown, F. M.**—Animals above timberline Colorado and Ecuador. [Colorado College Publ. Gen. Series 223, study series 33] 1-29. **Carpenter, G. D. H.**—The relative frequency of beak-marks on butterflies of different edibility to birds. [93] 111 (A) (3-4): 223-231. **Chermock, F. H. & R. L.**—Two new subspecies of Cercyonis alope. [Proc. Penna. Acad. Sci.] 16: 58-59. **Chermock, R. L.**—Notes on collecting Argynnis diana. [Proc. Penna. Acad. Sci.] 16: 59-61. **Clench, H. K.**—A new Bahaman Eurema (Pieridae). [115] 16 (1): 1-. **Comstock, J. A. and Dammers, C. M.**—Notes on the life histories of two California moths. [38] 41 (1) 44-47, ill. **Comstock, W. P.**—The genera of the Systema Glossatorum of Fabricius. [19] 37 (2): 46-49. **Daviault, L.**—Description et biologie de deux Lépidoptères nuisibles à l'orme. [98] 69 (6-7): 145-157, ill. **Dethier, V. G.**—Metamorphoses of common Cuban Pyrginae. [5] 49 (1-2): 4-7; Notes on the larva and chrysalis of Polites themistocles Latr. [38] 41 (1): 41-43, ill. **Ferrière, C.**—Les parasites de la teigne des vêtements. [41] 18 (7-8): 374-377, ill. 1941. **Hayward, K. J.**—Hesperioidea Argentina XIII. [106] 134 (1): 64-71, ill. (*). **Klots, A. B.**—Type material of North American Microlepidoptera other than Aegeriidae in the American Museum of Natural His-

tory. [62] 79 (6): 391-424. **Lindsey, A. W.**—A preliminary revision of Hesperia. [Denison University Bulletin Journ. Sci. Lab.] 37 (1-2): 1-50, ill. (k*). **Lotmar, R.**—Über eine Mikrosporidieninfektion (Gattung Nosema) bei der Kleidermotte, Tineola biselliella; Die Polyederkrankheit der Kleidermotte T. biselliella. [41] 18 (7-8): 361-371, ill.; 372-373, ill. 1941. **Maheux, G.**—Sur les migrations larvaires des Lépidoptères monophages. [98] 69 (6-7): 163-172, ill. **Mignault, J. B. & Gauvreau, M.**—Un cas de gynandromorphisme chez le Telea polyphemus. [Annales de l'ACFAS] 8: 108. **Munroe, E. G.**—The Caribbean races of Anartia jatrophae Johansson (Nymphalidae). [40] 1179: 1-4 (*). **Uribe Piedrahita, C.**—Notas sobre el apparato urticante de las larvas de Megalopyge lanata. [127] 3: 505-506. **Urquhart, F. A.**—Angle-wing butterflies [Polygonia]. [Canad. Nature] 4 (4): 114-115, ill. **Williams, J. L.**—Probable parasitic stalked bodies in adult Lepidoptera. [Proc. Penna. Acad. Sci.] 16: 37-38, ill. **Zeuner, F. E.**—Two new fossil butterflies of the family Pieridae. [75] 11th series, 9 (54): 409-416.

DIPTERA.—Aitken, T. H. G.—Contributions toward a knowledge of the insect fauna of lower California No. 6. Culicidae. [61] 24 (6): 161-170. **Alexander, C. P.**—New or little known Tipulidae LXIII, LXIV. Neotropical species [75] 11th Series 9 (53): 338-370; (54): 424-448. **Audcent, H.**—Hints on the mounting of Diptera [21] 54 (6): 69-72. **Bellamy, R. E.**—Observations on the macroscopic species-identificaton of larval Anopheles in Georgia. [Journ. Parasitol.] 28 (4): 299-310. **Blanchard, E. E.**—Parasitos de Alabama argillacea Hbn. en la Republica Argentina. [106] 134 (1): 54-63, ill. (k*). **Child, G. P.**—Temperature and the differentiation of characters in Drosophila. [Biol. Symposia, Lancaster, Pa.] 6: 37-49, ill. **Fairchild, G. B.**—Notes on Tabanidae from Panama. V. The genus Tabanus, subgenus Bellardia Rondani. [5] 49 (1-2): 8-16, ill. (k*). **Fosdick, R. B.**—A malarial invasion from Africa [Natural History] 50 (2): 78-85, ill. **Gabaldon, A. & Aguilera, C.**—Variaciones del color de los Anofelinos venezolanos de la subserie oswaldoi (Culicidae). [127] 3: 389-409. **Goodwin, M. H., Jr., & Eyles, D. E.**—Measurements of larval populations of Anopheles quadrimaculatus. [84] 23 (3): 376. **Gordon, C. and Sang, J. H.**—Polygenic inheritance and the Drosophila culture. [31] 149 (3787): 610-611. **Hull, F. M.**—Some new species of Syrphidae. [5] 49 (1-2): 19-24; Notes and descrip-

tions of North American Stratiomyidae. [19] 37 (2): 70-72. (*); The genus Ferdinandea Rondani [91] 32 (8): 239-241. (k*); Some flies of the genus Volucella. [Proc. N. Eng. Zool. Club] 19: 93-98 (S*); Some flies of the genus Mesogramma. [Proc. New Engld. Zool. Club] 20: 17-24 (*). **Imms, A. D.**—On Braula coeca Nitsch and its affinities. [116] 34 (1): 88-100, ill. **Jack, R. W.**—See Anatomy and Physiology. **Johnson, D. E.**—A new Cyrtopogon (Asilidae) from Utah. [120] 3 (1): 1-4, ill. **Mackerras, I. M. and Fuller, M. E.** (the late).—The genus Pelecorhynchus (Tabanoidea). [Proc. Linnean Soc. N. S. Wales] 67 (1-2): 9-76, ill. **Marshall, J. F.**—Mosquito-breeding in static water supplies [31] 149 (3786): 568-570. **Mumford, E. P.**—Mosquitoes, malaria and the war in the Pacific [68] 96 (2487): 191-194, ill. **Patterson, J. T.**—Isolating mechanisms in the genus Drosophila. [Biol. Symposia, Lancaster, Pa.] 6: 271-287. **Philip, C. B.**—Notes on nearctic Tabaninae. pt. III. The Tabanus lineola complex. [5] 49 (1-2): 25-40 (k*). **Pierce, W. D.**—See Arachnida. **Pilkington, R. W.**—See Anatomy and Physiology. **Porter, J. P.**—Massospora tipulae sp. nov. and Tipula triplex colei Alexander subsp. nov. [Jour. E. Mitchell Sc. Soc.] 58 (1): 65-68. **Rogers, J. S.**—The craneflies (Tipulidae) of the George Reserve, Michigan. [Misc. Pub. Mus. Zool. Univ. Mich.] 53: 1-128, ill. **Rousseau, J.**—L'interaction des genes de la coloration des yeux chez le Drosophila melanogaster. [Annales de L'-ACFAS] 8: 104-105. **Rowe, J. A.**—Mosquito light trap catches from ten Iowa cities, 1940. [Iowa State College Journal of Science] 16 (4): 487-518. **Scott, J. W.**—Oestrus ovis in the Rocky Mountain Bighorn, Ovis canadensis. [Journ. Mamm.] 23 (3): 345-346. **Slifer, E. H.**—A mutant stock of Drosophila with extra sex-combs. [42] 90: 31-40. **Steyskal, G.**—Notes on the genus Dolichopus, paper 2; A curious habit of an empidid fly, further notes; A note on preparing Diptera. [19] 37 (2): 62-67; 67, 69. **Vargas, L.**—Nota sobre la validez del Psorophora (Psorophora) virescens Dyar y Knab, 1906. [Medicina, Mexico] 22 (407): 81-84, ill.; Notas sobre la importancia sanitaria de los simulidos y de su morfologia interna. [Revista Inst. Salubr. Enfermed. Trop., Mexico] 2 (2): 213-236, ill.; Las hembras americanas del subgenero Anopheles. [Revista Inst. Salubr. Enfermed. Trop., Mexico] 3 (1): 67-74 (k); Nota sobre la presencia de Anopheles neomaculipalpus en Mexico. [Revis-

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SPECIAL NOTICES.—Ceballos, Gonzalo.—Las tribus de los Himenópteros de Espana. Consejo Superior de Investigaciones cientificas. Instituto Espanol de Entomologia, Madrid. 1941. Pp. 1-48, ill. To consist of about 300 pages and more than 300 figs. Distributed with Eos, 17 (4) and following numbers.

Atlas of the Scale Insects of North America. By G. F. Ferris. Stanford University Press. Series IV, Nos. 385-448. Price, bound $6.75, unbound, $5.75. Publication date May 28, 1942. Received by Entomological News June 4, 1942.—Nos. 385-444 deal each with a separate species, continuing the treatment employed in the first three series as set forth in the News for May, 1937, p. 150, October, 1939, pp. 238-239, and October, 1941, pp. 238-239, respectively. No. 445 contains supplementary notes, including species not considered in this work for lack of material or on account of uncertain status, and disposition of species not previously accounted for. No. 446, The Family Diaspididae, Classification and Keys to the groups and species, 70 pp., 3 pls., is divided into four sections: I. Preliminary Observations, II. The normal Diaspidid pattern, Habit and Morphology, III. Classification, IV. Identification of the Diaspididae occurring in North America. No. 447 is a four-page Epilogue the last section of which is entitled "Prognosis". It reads: "These acknowledgements [of assistance rendered] are here made in detail because of the strong probability that this Atlas will be discontinued with the publication of the present series. In ordinary times it might perhaps have been possible to issue this work with but little financial loss. However, the disturbed condition of the world has eliminated that possibility and the loss has become excessive. Consequently, after the publication of this series, the work will be allowed to lapse and it will not be resumed unless and until some continuing support for it appears. If it is eventually continued, the "loose leaf" form will be abandoned and a different procedure will be adopted. The writer stands ready to do the work that will be involved in carrying the original project through the six to ten years more that will be neces-

sary for its completion. But no publisher can be expected to undertake a work from which financial loss is certain and the author cannot assume that loss himself. If the world wants this Atlas of the Scale Insects of North America completed the world must find some way to pay for it." No. 448 is a General Index to the four series.

In the introduction to the first series, in January, 1937, it was thought that the number of species to be treated would be 750, to be published in something less than ten years. With the termination of the fourth series, after five years and four months, 345 species of the Family Diaspididae have been considered, but the author emphasizes that this Atlas is nothing more than a beginning in the study of this one family. It is a mournful reflection that here again is an instance, all too common in the history of science and of the arts, of the failure to complete an ambitious and worthy enterprise through no fault on the part of the author.—P. P. CALVERT.

OBITUARY

HERMANN HORNIG, entomologist of the Reading Public Museum and Art Gallery, Reading, Pennsylvania, died of a heart attack on June 20, 1942. He was 84 years old, and had occupied his recent position for the past 15 years, having previously been in the employ of the Philadelphia Department of Public Health for a like period. While in Philadelphia he was engaged in cleaning up some of the mosquito-breeding areas in south and west Philadelphia.

He was well known among the entomological fraternity in Philadelphia and Reading, where he spent so many years, as an affable and kindly gentleman of the old school. He was particularly adept at preparing life-history groups of insects, especially those of economic importance.

While his interest was centered chiefly in the order Diptera, his work and absorbing interest gained him a broad working acquaintanceship with the various orders of insects.

Although Mr. Hornig did not have the advantage of academic training in entomology in his early years, his training as a jeweler and the years of experience spent in his trade fitted him admirably for the delicate and painstaking work that he accomplished; and his love for his subject, together with a

tireless and inquiring turn of mind, ultimately brought him a tremendous fund of information on the habits and life histories of many insects. This served him in good stead in his work, and he was frequently called upon to advise farmers, horticulturists and others who were beset with insect problems.

Mr. Hornig was born November 5, 1858, in Altwasser, Silesia, of Ernst and Johanna (Eleanor) Hornig, and came to the United States at the age of 21, working at his trade in New York City for two years. He then came to Philadelphia and followed his trade in one of the large wholesale jeweler's houses in this city. His interests eventually brought him into association with many of the local entomologists, and he became active in several of the local entomological groups at the Philadelphia Academy of Natural Sciences and the Wagner Free Institute of Science. He also served as president of the Philadelphia Natural History Society. During his early years he occasionally contributed papers to the Entomological News.

The life history groups, of which he made many during his years in Reading, are and will continue to be, of great educational value to the schools and general public with whom he worked, and his loss will long be felt by his co-workers and the visitors to the museum, many of whom delighted to hear him recount his experiences and tell, in his inimitable way, of the strange activities of the insect world as he saw it.

Mr. Hornig is survived by his widow, Edna (Clark) Hornig.

EARL L. POOLE.

Dr. WILLIAM SCHAUS, until recently honorary assistant curator of the division of insects, United States National Museum and entomologist in the Bureau of Entomology and Plant Quarantine, United States Department of Agriculture, died in Washington, D. C., on June 20th last.

He was born in New York City, January 11, 1859. He early became interested in the Lepidoptera, and, possessed of private means, made collections of these and other insects in the American tropics, visiting Guiana in 1903-04, Mexico in 1906, Costa Rica in 1909-10 and Guatemala in 1915-18. For many years, on these journeys, at home in London and in

Washington and to the hour of his death, his constant friend and companion was John T. Barnes.

Nearly all of the insects he collected went to the National Museum at Washington, as well as large quantities of material which he purchased from collectors all over the world, particularly from Central and South America and including the P. Dognin collection of Ecuadorian Lepidoptera from France. In fact he practically expended his considerable fortune in gifts of this character and of entomological books to our government.

For many years he worked at the National Museum without pay, sharing the Macrolepidoptera with Dyar until the latter's death (1929) and then in full charge, later becoming a salaried official. He was a prolific writer and described more Central and South American butterflies and moths than any other American. One of his earliest papers was "Descriptions of the early stages of some Mexican Lepidoptera" (Papilio 3: 186-189. 1883). In the decade 1910-1920 many of his descriptions appeared in the Annals and Magazine of Natural History of London, but after that time chiefly in American journals, including the Proceedings of the United States National Museum, the Transactions of the American Entomological Society and Entomological News (for example, "Two New Saturnids from South America", in our issue for January, 1925). Among his latest publications are two (1940) on moths of the families Noctuidae, Geometridae and Pyralididae in the Scientific Survey of Porto Rico and the Virgin Islands, of the New York Academy of Sciences.

The University of Wisconsin conferred the honorary degree of Master of Arts upon him in 1921, and the University of Pittsburgh that of Doctor of Science in 1925. He was elected a corresponding member of the American Entomological Society on June 12, 1911 and a correspondent of the Academy of Natural Sciences of Philadelphia on April 20, 1920.

He was a kindly gentleman who will be mourned by many of us, who have shared in his hospitality and in his collections, as a personal loss.

ROSWELL C. WILLIAMS, Jr.
PHILIP P. CALVERT.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

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